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CLIMATE VERSION 2 WHITE PAPER

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Climate Version 2 Image Management and Distribution Software

Monet is announcing the next major release of its client image management and distribution software solution for image-intensive businesses, as well as print industry service providers. Monet provides the software under the CLIMATE (Client Image MAnagement and TElecommunications) trade name. Integration and consulting services are provided by Monet for turnkey installations. CLIMATE is also offered as a service through Monet's facilities in Tampa, reducing the investment of costly in-house computer systems, disk storage, archiving, and telecommunications hardware. Additionally, staffing needs for system and telecommunications specialists are reduced significantly or eliminated. The CLIMATE solution is targeted toward businesses who need to control and distribute their digital assets or wish to provide these services to their clients. A key feature of the CLIMATE software is its open, wide area connectivity, enabling clients from around the world to communicate, manage, and deliver digital assets. Although primarily an Intranet, version 2 will enable Internet access as an option.

The "Alliance Partner" network of CLIMATE providers has created a unique pool of other resources (such as Indigo or large format output, specialized or emergency pre-press services, etc.) located in strategic geographic cities around the US and Canada. By becoming an "Alliance Partner", a client or service provider has the option of starting with CLIMATE as a service and up-grading to a host site at a later time. All digital files and data are seamlessly migrated by Monet at the time an upgrade occurs. A list of new features in version 2 is listed on the following page.

CLIMATE VERSION 2 NEW FEATURES

- Completely new optimized browser including librarian-determined remote data editing
- Improved work order builder drag and drop interface with system validation
- Enhanced and more scaleable communications gateway providing network response and view over conventional modem connections
- PC, MAC, Internet access capability
- Work-In-Process (WIP) identification on all browser and download activities allowing reports generated to identify not only the client who accessed the system, but what job to charge against
- Wide area Auto-logging for mass input and data correction at a later time
- Project Builder for parent-child file relationship
- Selectable decompression or retain compression upon hi-res delivery
- JPEG RGB lo-res generation choice for multimedia Internet applications
- Independent OPI server choice at host site installations allowing complete compatibility with existing workflows
- New host site administrative functions including media-type designation or physical media copy for distribution

CLIMATE VERSION 2 WORKFLOW

Monet CLIMATE system activity is totally controlled by the Monet customer. Generally a client or representing agency initiates all new orders for image input, whether it is scanned or existing digital, and fills out electronic data forms which are then processed by CLIMATE. In version 2 this function now resides at the supplier sites as well, for those service providers offering data management services. Images or documents are linked to these data forms, placed in service provider queues, and automatically routed to the service provider, remote or local. The connections can be dial-up or fixed, Basic ISDN, PRI-ISDN, SMDS, Frame Relay, T1 or ATM/OC-3 if supported. CLIMATE processes and stores the images/documents and makes the data available for browsing and multi-type lo-res retrieval as determined by the librarian. All documents and images may be retrieved to the desktop. Hi-res files can now be permissioned for desktop retrieval over modem lines where hi-speed data connections are unavailable.

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Work orders for processing occur in the same manner (images or documents already on the system). A client builds the work order after browsing or downloading OPI images for placement in a document. Additionally, the page makeup or other document(s) can be transmitted to the particular service provider (or an NT remote server designated only for hot-foldering). Once images and any associated documents are selected, the job is sent to CLIMATE for distribution. The order is then routed for retrieval by the appropriate service provider. CLIMATE provides monthly reporting of activity and billing for clients. The reports include details of file storage usage and any of their subscribed users' and service providers' activity. Version 2 adds the work-in-process feature. Reports can be customized beyond the standard formats.

SYSTEM DESCRIPTION

The CLIMATE system is based upon an integrated distributed client/server web with wide area interconnection at two levels; image browsing and file transportation. Monet's CLIMATE system now features an enhanced communication gateway front end as well as the server-based file delivery processing for the print industry. Flexible telecommunications and network connectivity make CLIMATE adaptable to any demand requirements by its users.

The total system solution is comprised of a data repository for digital assets, variable bandwidth telecommunications, 3 tiered image resolution, firewall security, complete image management and control, comprehensive activity reports at client site, and graphic arts knowledgeable support. Image browsing is handled over conventional dial-up telephone or ISDN lines with standard computer hardware, currently Macintosh and now in version 2 Windows 95 or NT on the PC. Monet software additions optimizes communication speed for file downloads and thumbnail image searching.

File transportation is handled by a communications server that is located at either a customer site and/or service provider sites and allows distributed file processing, retrieval, and communications handling. Functionality of the communications server is tailored to the Graphic Arts clients' needs and/or to their customers or suppliers, i.e. specific file format translations and communications connections. The ability to convert various file formats allows efficient re-purposing of image data for intermedia applications, including de-centralized on-demand printing. The growth of the "Alliance Partner Network" now provides additional sources for on-demand output of various

flavors.

Monet incorporates the Windows NT server operating system. Process functions that handle communications, image processing, variable compression, file translation, file transmission, and reporting are divided up among three core servers that are task-specific. File translation and order processing are distributed over the wide area as a function of the number of active communication servers that are subscribed to the system. The distribution stabilizes average throughput of the system and virtually eliminates I/O overload. Monet keeps track of the data through an SQL driven database that provides links to the image library. This method enables the system to maintain an independent file structure for all image files and track variable compression ratios that are client-defined for those files it applies to, independent of the overall system. All non-image files are compressed losslessly.

Monet utilizes a licensed OPI software engine as the core for-placement-only generator. In version 2 a host installation can elect to use whatever OPI server they desire. The system maintains a three tiered file system for browsing, EPS or TIFF OPI, RGB JPEG and standard hires read only image. All files archived to the system are never modified, thus insuring integrity of the compressed file structure at any ratio. Any duplicate files accidentally entered into the system are automatically appended with a filename suffix to denote such errors, thus eliminating possible overwrites. Files that would need revision are saved as a new file, and the client librarian would determine the need to purge any older versions. Another feature of the storage system is the thumbnail and OPI generation. Occasionally a file may be corrupted in the generation process, therefore CLIMATE provides a preview capability as the images are processed to check against file degradation. These files are what the user sees upon browsing or OPI download. If a file was corrupted, the low-res files will show the fault, thus, the view files are a verification of the image library integrity. The Monet processor module performs all of these tasks in the communication server prior to passing files and data to the main server for input into the library.

Image File formats currently supported for variable JPEG compression are TIFF, and Scitex CT. All image formats are supported for lossless compression within the system as well as any other type of document file. The CLIMATE system also allows a user to group elements into a job for storage on the system or build projects that create links between records. Monet is looking

toward TIFF/IT and PDF as the long range standards. The phase III implementation of CLIMATE will support distributed database communication, site mirroring, remote archiving and integrated communication with other installed databases.

Communication services are being offered initially over Basic Rate ISDN with other bandwidths and media types as they become regionally available. Monet has improved its communication handler for passage of secured data between subscriber points. This "bundler" handles all of the order form data, image translation if needed, thumbnail generation, and packaging for transmission. OPI functions are performed on the host server to maintain workflow compatibility as needed. Supplier communication servers initiate all inbound and outbound data traffic. CLIMATE handles only requests and processes data with its intelligent processing server as the system entry point. This approach allows the subscriber to take advantage of communications economies and provides for secure connections. Server hot-foldering can be configured to any server on the Climate Intranet, independent of the host site.

CONCLUSION

This entire process is easily viewed and managed from the desktop, providing seamless, cost effective, instant digital delivery of corporate-wide communications at significant savings over courier-based operations. Monet offers CLIMATE services to the Graphic Arts trade on a Host OEM basis for those who would prefer to maintain control of their existing accounts' Digital Assets. Monet's system is currently operational at its Tampa facility, Midland MI, Milan IL, and Boston MA. Pricing for the software is based on system size and anticipated subscriber requirements. Pricing and sample configurations are available upon request.